COUNTY OF SANTA CRUZ

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VIA EMAIL AND USPS

California Coastal Commission
c/o Sea-Level Rise Work Group
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Subject: Santa Cruz County Comments on Draft Sea-Level Rise Policy Guidance

Dear Sea-Level Rise Work Group:

Please accept these comments from the Santa Cruz County Planning Department on the Draft Sea-Level Rise Policy Guidance (Draft Guidance).

Introduction

As stated on page 20, the Draft Guidance is intended for a broad audience and, "There are many ways to evaluate and minimize the risks from sea-level rise, and Commission staff understands that different types of analyses and actions will be appropriate depending on the type of project or planning effort." This is a critical statement that should also be included in other parts of the document. Specifically, this type of statement should be included in the descriptions of the step by step guidance on how to address sea-level rise in Coastal Development Permits (CDPs).

In addition, there should be an acknowledgment that the Draft Guidance is not intended to prescribe that all local jurisdictions use specific or identical estimates of sea-level rise as part of their assessments or decisions. A similar acknowledgement is included on page 1 of the State of California Sea-Level Rise Guidance Document where it states, "...the document is not intended to prescribe that all state agencies use specific or identical estimates of SLR as part of their assessments or decisions." Similar to the differing mandates of state agencies, local jurisdictions are not all alike, and have LCPs that are not all alike. There will be variability in the types of analyses and actions by local jurisdictions, and there will be variability in the amount of sea-level rise, within the acceptable range, used in these analysis and actions.

Sea-Level Rise Science

Table 1, Table 2, Table 3, and Figure 10 should be revised to include more information from Table 5.3 in the NRC, 2012 report. Specifically, the Draft Guidelines should include regional sea level rise projections and ranges relative to year 2000. For example, South of Cape Mendocino the projection for 2100 is approximately 93 centimeters within a range of approximately 42 to 167 centimeters. All these numbers should be included in the tables. Figure 10 should be revised to graph this information in the same way that global sea level rise projections and ranges are represented in Figure 5.6 of the NRC,2012 report.

There are a number of references to the uncertainty associated with current sea-level rise projections, but there is no detailed discussion of the uncertainty represented by the ranges associated with the sea-level rise projections for various time periods. The Draft Guidance should include at least a summary of the uncertainty discussion from Chapter 5 of the NRC, 2012 report included below in its entirety.

> *Projections of future sea-level rise carry numerous sources of uncertainty. This uncertainty arises from an incomplete understanding of the global climate system, the inability of global climate models to accurately represent all important components of the climate system at global or regional scales, a shortage of data at the temporal and spatial scales necessary to constrain the models, and the need to make assumptions about future conditions (e.g., population growth, technological developments, large volcanic eruptions) that drive the climate system. Although a systematic analysis of these uncertainties was beyond the ability of the committee, this report attempts to describe and combine the most important uncertainties. For the committee's global sea-level rise projections, important uncertainties are associated with assumptions about the growth of concentrations of greenhouse gases and sulfate aerosol, which affect the steric contribution, and future ice loss rates and the effect of rapid dynamic response, which affect the land ice contribution. Additional, unquantified uncertainties arise from neglecting the terrestrial water component in the projections and from combining model-projected steric contributions with extrapolation-projected land ice contributions (e.g., model projections account for future emissions whereas extrapolations do not).*
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> *Regional projections carry additional uncertainties because more components are included and some components are estimated from global scale analyses. The uncertainties are larger for the committee's projections for California, Oregon, and Washington than they are for the global projections, primarily because uncertainties in the steric component are larger at smaller spatial scales and because some of the additional components (e.g., vertical land motion) have relatively large uncertainties.*
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> *For both global and regional projections of sea-level rise, uncertainties grow as the projection period increases because the chances of the observations and models deviating from actual climate changes increases. Currently, all projection methods—including process-based numerical models, extrapolations, and semi-empirical methods—have large uncertainties at 2100. Although the actual value of sea-level rise will almost surely fall somewhere within these wide uncertainty bounds, confidence in specifying the exact value is relatively low. At short timescales, the models more closely represent the future climate system, so uncertainties are smaller and confidence is higher. Confidence in the committee's projections is likely to be highest in 2030 and perhaps 2050, which are likely of greatest interest to coastal planners, engineers, and other decision makers tasked with planning for sea-level rise along the west coast of the United States.*

Although scenario-based planning is a way of dealing with uncertainty in the LCP planning process and CDPs, the document should acknowledge that scenario-based analysis must ultimately yield to project design incorporating a certain amount of sea-level rise.

For example, the elevation of a structure in a coastal flood zone, or setback of a structure from the edge of a coastal bluff will ultimately be based on a design incorporating a specified amount of sea level rise. The amount of sea level rise to use in project design should be reasonable, and should be updated as necessary based on best available new science.

Draft Guidance for LCPs and CDPs

The Draft Guidance describes step by step processes to compile information about sea level rise, coastal resources and development, and adaptation measures. Decisions about LCP policy options and project design standards will be made by local jurisdictions. The document should acknowledge there will be variability at the local level in terms of LCP policy options and project design standards.

The step by step process for CDPs represents in its entirety, a large amount of analysis for individual projects that may not be necessary for every project and may not be feasible for individual property owners to undertake. It should be acknowledged that local jurisdictions may establish simplified processes for specific areas or types of projects that provide the appropriate level of analysis to identify hazards and protect coastal resources. Further, the guidance should take into account the wide range of projects that require CDPs, from, for example, a hotel complex with coastal protection to a small addition to a single family home. These cannot be treated equally by the guidelines.

Step 1 in the planning process for LCPs and CDPs should recommend using reasonably foreseeable amounts of sea-level rise within the acceptable range. As recommended in the State of California Sea-Level Rise Guidance Document (March 2013 update), the ranges of sea-level rise presented in the NRC, 2012 report should be used as a starting place and sea-level rise values should be selected based on agency and context-specific considerations of risk tolerance and adaptive capacity (Recommendation 1). For example, in most cases, it may be reasonable at this time to use medium values equivalent to the actual projection in the NRC, 2012 report. These values can be revised during periodic LCP updates based on best available new science. In future decades the actual sea level rise trend may be consistent with the current projections, or trend closer to the lower or upper ranges associated with the current projections.

Step 3 in the planning process for LCPs should include additional references to development. In the Sensitivity section the first reference to resources should be changed to resource/development. In the Adaptive Capacity section the first reference to resources should be changed to resources/development. In the Land Use Planning Options and Constraints section the first reference to resources should be changed to resources/development. Finally, in the Expected Outcomes paragraph the first two references to resources should be changed to resources/development.

Step 4 in the planning process for LCPs could include a suggested adaptation measure intended to provide guidance when existing development along the coast becomes a public nuisance through a hazardous condition or impact on coastal resources. The purpose of such an adaptation measure would be to provide a clearly defined process for dealing with geologic and environmental hazards, and abatement of dangerous buildings in the coastal zone.

Additionally, the Draft Guidance should include a suggested adaptation measure similar to Strategy 2 in the Ocean and Coastal Resources section of the State of California Adaption Strategy: Provide Statewide Guidance for Protecting Existing Critical Ecosystems, Existing Coastal Development, and Future Investments. Local communities could initiate a similar strategy that would build on community-level or regional mapping of resources, development and potential future investments. The strategy should include an acknowledgement that it may be futile and environmentally destructive to try to protect everything. Cost-benefit analyses should be framed so that all public and private costs and benefits are appropriately considered. The strategy should address key questions, as listed in the State Adaption Strategy, for helping to prioritize, design, and locate proposed or existing structures that may be threatened by sea-level rise. The questions should address health, safety, and welfare of the community, alternatives analysis, and impact on coastal resources.

Step 5 in the planning process for LCPs advises local governments to identify technical assistance and pursue funding and partnerships necessary to support LCP updates to address sea-level rise. This step should include a similar statement that the California Coastal Commission should assist in identifying these technical assistance resources and funding opportunities and partnerships, as well as providing direct funding opportunities. Step 5 should include a statement similar to the statement included in the Principles for Addressing Sea-Level Rise in the Coastal Zone in the section on maximizing agency coordination (D.15).

Thank you for the opportunity to provide these comments.

Sincerely,

[redacted]

David Carlson
Resource Planner